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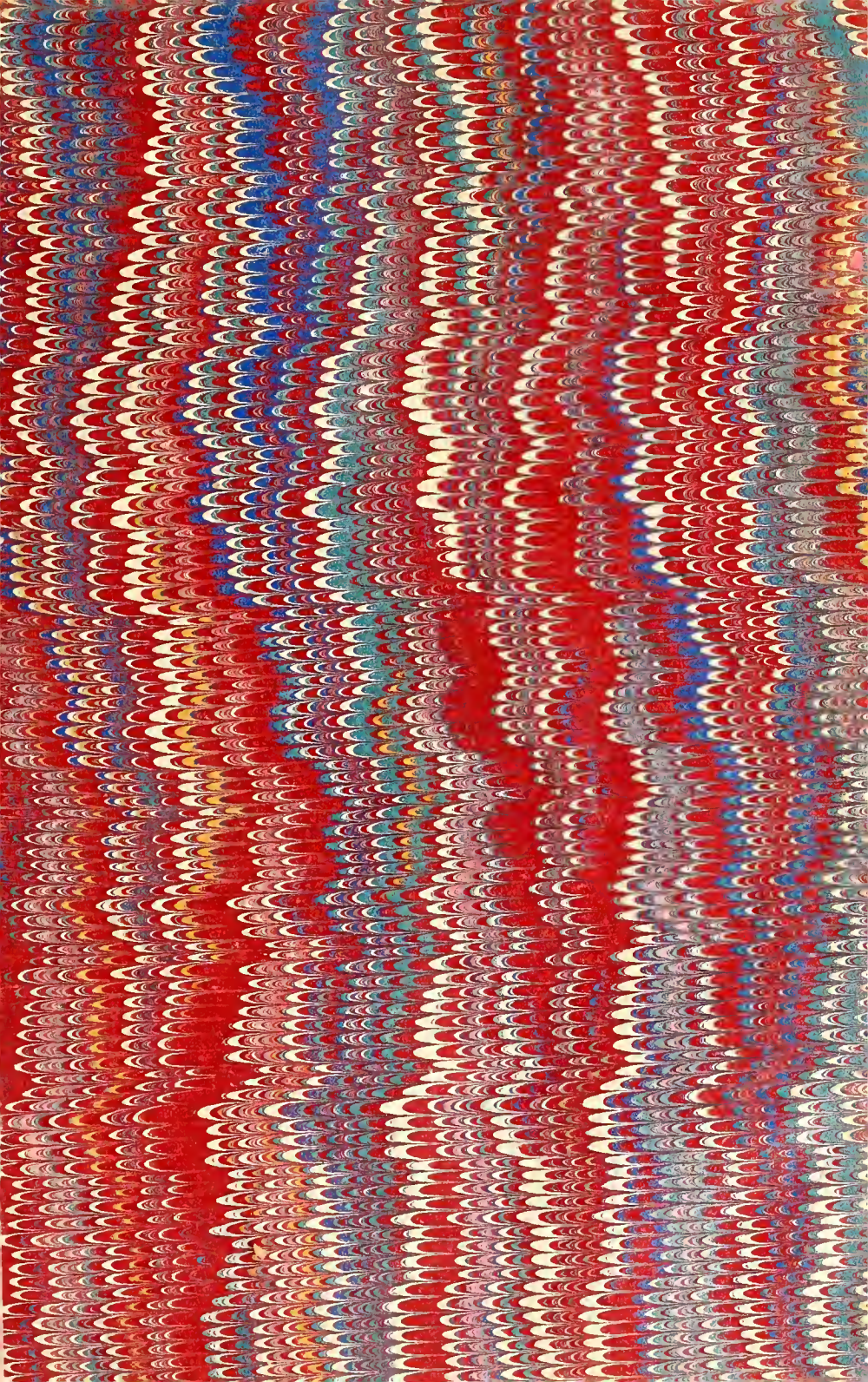
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# INSTITUTE MANUAL;

—OR—

## GRADED COURSE OF STUDY,

—AND—

## NOTE BOOK,

—FOR—

## NORMAL INSTITUTES.

—BY—

CHARLES H. MCGREW, B. S.,  
COUNTY SUPERINTENDENT KEOKUK COUNTY, IOWA,  
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SECOND EDITION.

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Let us honestly, earnestly, prayerfully study the great science of teaching. Let us learn and courageously apply the truths that shall set us free.—*F. W. Parker.*

Teaching is stimulating in self growth. Education is the generation of power.—*Pestalozzi.*

The true end and aim of all education should be a harmonious development of the whole being. *Froebel.*

That divine and beautiful thing called teaching. When nature teaches, it is fun to learn. The method of nature is the archetype of all methods.—*Marell.*

The genesis of knowledge in the individual must follow the same course as the genesis of knowledge in the race.—*Spencer.*

The object of all education is to teach people to think for themselves. The hardest thing to do in the world is to think.—*Emerson.*

Intellectual progress is, of necessity, from the concrete to the abstract. Science, science alone is adequate to the ends of complete living in the world.—*Spencer.*

All who have meditated on the art of governing mankind, have been convinced that the fate of empires depends on the education of youth.—*Aristotle.*

Observation is the absolute basis of all knowledge. The first object, then, in education, must be to lead the child to observe with accuracy: the second to express with correctness the result of his observations.—*Pestalozzi.*

Whatever you are, you become immortal through the souls of your pupils. There is one indispensable requirement,—the teacher must know the child and its nature. If the teacher knows the child, and her heart lies close to the child's heart, every motion of his mental and moral pulse, every desire to do right or wrong, will always be felt by her.—*F. W. Parker.*

## PREFACE.

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This Institute Manual is a growth. It has grown out of a careful study of educational principles and methods, and practical experience with our Schools and Institutes. In working up and adopting a Graded Course of Study for my own Institutes, the essential plans and features of this work have been fully and satisfactorily tested. Indeed, the warm reception of my Graded Course by both teachers and instructors, and the success and the results from its use, led to the preparation of this Manual.

Its aim is not to replace any text books or works on teaching, but to supply a long-felt want. It is designed as a guide for both teachers and instructors, and to systematize, unify, elevate and render more efficient the work of our Normal Institutes. Among other things, it aims at these three central objects: To improve scholarship, to disseminate true and natural principles and methods, and to establish and foster a professional class of teachers from Normal Institutes. Consequently, this Manual regards the Normal Institute as a short term Normal School, and presents a Graded Course of Study, carefully and scientifically prepared as a whole, and in all the outlines; also, plans for grading teachers in the course, and completely systematizing the work. With these ends in view, it is believed the work will prove true economy of time, labor and money. Great as has been the benefit derived from our Institute system, in many respects our Normal Institutes have been aimless. It is to be regretted that more definite objects have not been steadily kept in view. The Normal Institute is only in its infancy. Our Institutes are destined to become powerful factors in our system. They are the only means by which we can reach the masses of our teachers, and through them, all the schools. The true educator will welcome any plan to improve and perfect them.

The characteristic features claimed for the Manual are:—

1. The graded outlines are full, condensed, definite and suggestive, and can easily be adjusted to the different classes.
2. As far as practical the arrangement of the branches in the course is economic and scientific.
3. The introduction of the social and natural sciences, aims at a much needed reform.
4. Full half the course is devoted to professional work and modern thoughts on teaching.
5. It has definite aims, and seeks to establish and foster a uniform, professional class of teachers from Normal Institutes.
6. It advocates the principles and methods of the New Education in every feature.

Fully sensitive of the delicate task of preparing such a Manual for my fellow teachers, and seeking only for the true, the natural and the improved, I will be the first to welcome criticisms, either of principle or method. If this Manual will contribute anything



in lightening the burdens of my over-worked fellow Superintendents, in systematizing and unifying their Institute work, in giving faithful and earnest teachers a just recognition, in raising the standard of our noble profession, I shall feel amply repaid for my labors.

C. H. MCGREW.

SIGOURNEY, IOWA, December 24, 1883.

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## SUGGESTIONS AND GENERAL RULES.

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I. For admission to the A grade, a teacher should hold a first-class certificate, have done three years' institute work, or had equivalent professional training in normal and high schools or academies, and be a successful teacher.

II. For admission to the B grade, a teacher should hold at least a second-class certificate, have done two years' institute work, or had an equivalent high school training, and have made a success in teaching.

III. For admission to the C grade, a teacher should hold at least a third-class certificate, have done one year's institute work or equivalent.

IV. All those who have not taught and wish to prepare themselves for teaching, should be admitted to the D grade.

V. Regular classifications should be adhered to. The program is arranged for such.

VI. Teachers enrolled in the institute are expected to attend all the recitations to which they are assigned.

VII. Teachers finishing any year's work satisfactorily, will receive normal certificates promoting them to the next. Diplomas of graduation and teachers' premium certificates will be granted to those completing the course.

VIII. On completing the course, it is designed for each class to have a public graduating exercise at the close of the session.

IX. Instructors can easily adjust the work of the outlines to their classes. They are expected to give the scope of the next lesson in order to insure preparation and encourage study.

X. As far as possible the course in reading for each grade, should be done before the work for that year is begun in the institute. From two to three hours' study will be expected from teachers each day. Individual recitations to be adhered to.

XI. After each recitation there will be a hall recess of five minutes, during which teachers should find their way to their next recitations.

XII. Be at all times and in all places a manly man or a womanly woman.

## THE GRADED COURSE OF FOUR YEARS.

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### FIRST YEAR OR D CLASS.

Orthography, Penmanship, Language, Geography,  
Arithmetic, Drawing, School Economy.

### SECOND YEAR OR C CLASS.

Orthography, Penmanship and Drawing, Geography, Reading,  
History, Physiology, Art of Teaching, Science of Teaching.

### THIRD YEAR OR B CLASS.

Grammar, Arithmetic, Reading, History, Physiology,  
Art of Teaching, Science of Teaching, Primary Teaching.

### FOURTH YEAR OR A CLASS.

Civil Government, Algebra, Botany, Zoology, Mineralogy,  
Rhetoric and Literature,  
Art of Teaching, Science of Teaching, Primary Teaching.

## GROUPS OF THE BRANCHES SUGGESTED.

- I. Reading, Orthography, Language and Grammar.
- II. Penmanship, Drawing, Geography, History.
- III. Arithmetic, Algebra, Civil Government, Rhetoric and Literature.
- IV. Physiology, Botany, Zoology, Mineralogy.
- V. School Economy, Art of Teaching, Science of Teaching, Primary Teaching.

## COURSE IN READING BETWEEN SESSIONS.

FIRST YEAR : Manual of Drawing, Krusi, White, or Smith ;  
How to Speak and Write Correctly, Mrs. Knox ; School Man-  
agement, Baldwin ; School Room Guide, De Graff.

SECOND YEAR : Model History, Taylor ; Human Body, Mar-  
tin ; Talks on Teaching, Parker ; Mistakes in Teaching, Hughes ;  
Life of Pestalozzi, Krusi.

THIRD YEAR : History, Ridpath ; Social Science, Thompson ;  
Lives of Lincoln and Sumner ; Readings from Longfellow,  
Bryant, Whittier and Holmes ; Reminiscences of Frœbel, Maren-  
holtz-Bulow ; Development Lessons, DeGraff ; Principles and  
Practice of Teaching, Jhonot.

FOURTH YEAR : Civil Government, Young ; Rhetoric and  
Literature, Kellogg ; Science Primers, and Guides for Science  
Teaching, several ; Readings from Shakespeare and Dickens ;  
Moral Science, Peabody ; Primary Methods, Calkins ; Object  
Lessons, Sheldon ; Lives of Great Educators, Rosenkrans ; Kin-  
dergarten, Hailman and Kraus ; Education, Spencer, Bain.

# PROGRAMME.

ROOM 1.		ROOM 2.	ROOM 3.	ROOM 4.	ROOM 5.
First Bell, 7:30.					
8:00—8:25		MORNING	EXERCISES.		
8:25—9:05	A Art of Teaching.	B Primary Teaching.	D Arithmetic.		C Reading.
9:10—9:50	C Art of Teaching.	A Primary Teaching.	B Arithmetic.	D Penmanship.	
9:50—10:05		RECESS.			
10:05—10:45	D School Economy.		A Mineralogy and Algebra.	C Penmanship and Drawing.	B Reading.
10:50—11:30	B Art of Teaching.	A Botany.		C Ice graphy.	D Orthography.
11:30—1:30		NOON.			
1:30—2:10	A Science of Teaching.	B Physiology.		D Geography.	C Orthography.
2:15—2:55	B Science of Teaching.	C Physiology.	A Civil Government.		
2:55—3:10		RECESS.			
3:10—3:50	C Science of Teaching.	A Zoology.		B History.	D Language.
3:55—4:30			A Rhetoric and Literature.	C History.	B Grammar.
4:30		Adjournment.			



# COURSE OF STUDY.

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## READING.

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I. Reading:—Its importance and relations to other branches; Reading as a science and art: embraces a *mental element*, *vocal element* and *physical element*: discussion of each.

II. Voice and Inflection: Quality, force, pitch and stress.

III. Class drill on these subjects.

IV. " " " " "

V. Time, Pauses, Personation and Expression.

VI. Class drill on these subjects.

VII. " " " " "

VIII. Means of securing good Articulation, proper Accentuation and correct Pronunciation.

IX. How to train the *Eye*, *Ear* and *Tongue*, and to secure the facial and bodily expression.

X. Methods of Teaching Beginners: Object, word, alphabetic, phonic, word-building and sentence methods; each explained and advantages noted.

XI. A Combination of these, the Natural Method—Order of Proceeding: Object, idea, sound-word, written word, meaning and association with object, sentence, expression of thought.

XII. The Natural Method Explained and fully Illustrated.

XIII. How to Assign a Lesson and secure a Preparation of the Same.

XIV. How to secure Comprehension, Thought, and Expression of the Subject Matter.

XV. How to secure an Interest in Reading Classes.

XVI. The Results to be Obtained in Teaching Reading; Use and Abuse of Class Criticisms.

XVII. How to Cultivate a Taste for Good Literature in Pupils.

XVIII. Style of Discourse:—Effect in delivery; drill on selections of prose and poetry from the best authors.

XIX. Review or examination.

NOTE. The instructors can readily adjust the work of these outlines to the different grades, taking in consideration their ability, previous training and experience.

## ORTHOGRAPHY.

I. Orthography:—How learned; effects of good and bad orthography; orthography with other branches.

II. Alphabet:—Sounds of letters; distinctions between the *oral* and *written* word; diacritical marks;—their use.

III. *Macron, Dieresis, Caret, Breve, Period, Tilde*:—How used; consonant marks; use.

IV. Class Drill in Marking and Pronouncing Vowels and Consonants.

V. Write and mark Fifty Words relating to some Object, its Parts, Properties and Actions.

VI. Write and mark a Paragraph in Prose, and Verse of Poetry from dictation, having regard to Capitals and Punctuation.

VII. Write and mark Fifty Test Words in Pronunciation.

VIII. Class Drill in Oral and Written Spelling, and Defining Words from their use in the Sentence.

IX. Syllabication, Pronunciation, and Accent:—Drill on words commonly mis-pronounced.

X. Classification of Words with respect to Form, Derivation and Composition:—Definitions and terms.

XI. Derivation and Formation of Words:—Prefixes and Suffixes: meaning and application.

XII. Roots:—Latin, Greek and Anglo-Saxon: meaning in forming words.

XIII. Class Drill in Forming Words with Prefixes, Suffixes and Roots:—Analysis and Synthesis of Words.

XIV. Analysis and synthesis of words with reference to various kinds of roots, prefixes, and suffixes.

XV. Synonymy and sentence-building and dictionary work.

XVI. Advantages of oral and written spelling. Defining words and combining same into sentences.

XVII. Improved methods; objective, constructive, oral and written methods; defining words by use; plan of combination.

XVIII. Combined method the most natural and secures best results; steps, —object, idea, oral word, written word, oral and written sentence, paragraph.

XIX. Review or examination.

## LANGUAGE AND GRAMMAR.

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*I. Language Lesson:*—Introduction; language before grammar; nature of language; how learned; new methods of teaching it; reasons.

II. Language with Object Lessons and Natural History: Evolution of thought and its expression,—object, idea, oral expression, written expression.

*III. Art of Expression:*—Language Lesson on a Flower; Perception of object; formation of idea; development of thought; oral and written expression of thought; correction of expressions.

IV. Language Lesson on some interesting object:—Especially attention to writing, spelling, capitals, punctuation, correct and natural expressions.

V. Synthesis of Sentences:—Class write or reproduce an interesting story; much attention to thought and expression in complete sentences.

VI. Observing, thinking and writing:—Sentence-building, developing sentences with respect to form and use.

VII. Drill in forming simple, complex and compound



sentences: using paronymous and synonymous words; capitals; punctuation of each.

VIII. Nature of Sentences with Respect to Form and Use:—Development of definitions for each class; punctuation and expression of each.

IX. Drill and Exercises in Correcting Erroneous Expressions:—Especial attention to the manner of expression.

X. Letter Writing:—Much attention to the style, unity, strength and harmony of the sentence, and expression of thought.

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XI. *Science of Expression*:—Analysis of sentences; classification of elements according to rank, form and use; drill.

XII. Diagrams:—Use; relation of parts as shown in diagrams; use and abuse of analysis and parsing.

XIII. Development of noun, pronoun and adjective:—Offices, modifications and relations of each.

XIV. Development of verb and adverb:—Offices, modifications and relations of each.

XV. Preposition, conjunction and exclamation:—Office and relations of each; connectives.

XVI. Relation of grammar to logic and rhetoric; prose and poetry, difference; important divisions; outlines.

XVII. How is language learned? How to teach language; the objective and synthetic methods; reasons, plan in full.

XVIII. How is grammar learned? How to teach grammar; the subjective and analytic methods; reasons; outlines of plan. Why such poor results; mistakes in teaching both.

XIX. Review or examination.

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ARITHMETIC

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I. Introduction:—The two-fold object of studying arithmetic, for practice and discipline; Why such poor results; How to secure better; new methods.

II. Object Lesson on Numbers:—Ideas of number, objects, counting; develop idea of size, length, width, thickness, distance, height, depth and measure.

III. Development of Numeration and Notation:—Arabic and Roman methods, characters, terms, practice, principles.

IV. How to teach Addition and Subtraction with Decimals:—Process, practice, principles, definitions; How to secure rapid and accurate addition and subtraction, *not counting*.

V. How to teach Multiplication and Division with Decimals:—Process, practice, principles, definitions, drill.

VI. How to teach U. S. money and Decimals:—Process, practice, definitions, principles; counting real money; addition, etc.

VII. Factoring:—Process, practice, principles, definitions, drill; G. C. D. and L. C. M.; application.

VIII. Common Fractions:—Ideas developed; expression, terms, definitions; reduction, process, practice, principles.

IX. Addition, Subtraction, Multiplication and Division of Fractions:—Process, principles, drill.

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X. How to teach Denominate Numbers:—Definitions, tables, reduction, process, principles, drill; practice with tables.

XI. Addition, Subtraction, Multiplication and Division:—Process, principles; application.

XII. Ratio and Proportion:—Definitions, terms; How to teach proportion; process, principles, practice.

XIII. Percentage:—Definitions, terms, cases; How to teach percentage; process, principles; drill.

XIV. Applications:—Profit and loss, interest, discount, insurance, commission, stock exchange, etc.

XV. Involution and Evolution:—Definitions, terms, process, principles, practice: square and cube root with applications.

XVI. Mensuration:—Surfaces and solids: lines and ratios to find area, circumference, diameter, volumes and contents.

XVII. How to teach Primary Arithmetic:—Teach process, orally, objectively, inductively and synthetically: first *how*, and then *why*.

XVIII. How to teach Advanced Arithmetic:—Teach subjectively, deductively and analytically.

XIX. Review or examination.

## PENMANSHIP.

I. Introduction:—Objects to be attained in teaching penmanship.

II. Signals, positions, movements, form and principles.

III. Classification and analysis of small letters.

IV.       "       "       "       "       "

V. Classification and analysis of capital letters.

VI.       "       "       "       "       "

VII. Spacing, shading and figures.

VIII. Review of theory in forming small letters, capitals and figures.

IX. Practice and drill in writing business forms:—Attention to spelling, grammar and punctuation.

X. Practice and drill in writing social forms:—Attention to spelling, grammar and punctuation.

XI. Practice and drill in letter writing:—Much attention to spelling grammar and punctuation.

- XII. Write rapidly and legibly a paragraph of prose from dictation.
- XIII. Use and abuse of analysis and copies.
- XIV. Use and abuse of formality and system in writing.
- XV. Mistakes in teaching penmanship.
- XVI. How, when and where should penmanship be taught?
- XVII. How to make penmanship both interesting and practical.
- XVIII. The necessity of theory and practice.
- XIX. Review or examination.

## DRAWING.

- I. Introduction:—Drawing the universal language: its value: relations to science, art and industry.
- II. Study of form and outline:—Elements of form.
- III. Study of objects:—What we see of objects: light and shade.
- IV. Perspective:—Principles of perspective: study of objects in perspective.
- V. Application of these principles:—Drawing objects in perspective.
- VI. Application of these principles:—Drawing objects in perspective.
- VII. Mechanical drawing:—Principles, practice.
- VIII. The construction of images in perspective.
- IX. " " " " " "
- X. Landscape drawing:—Principles, practice.
- XI. Sketching from nature:—Practice.
- XII. Shading:—Principles, practice.
- XIII. Practice on objects from art and nature.
- XIV. Practical drawing by sight of natural objects.
- XV. Art Studies:—Sketching from art and nature.

XVI. How to teach Drawing; Why it should be made a study in the school room; "Learn to draw by drawing."

XVII. Relations of Drawing to other Branches:—Its aid in forming ideas; mistakes in teaching it; the natural method.

XVIII. Its value in Education:—As a source of mental and moral culture; What powers and faculties does it cultivate?

XIX. Review or examination.

## GEOGRAPHY.

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I. Introduction:—Geography a mixed science; relations to other sciences; reasons for teaching it.

II. *Physical and Political Geography of State*:—Physical features, climate, latitude, altitude, location, boundaries.

III. Surface, Soil, Natural Formations and Conditions:—Animal, vegetable and mineral productions.

IV. Counties and Districts:—Government, officers, elections; state institutions, location, function.

V. Social Status:—Inhabitants, politics, religions, customs, manners; physical, intellectual and moral status; schools and colleges.

VI. Industries, occupations, wealth, thrift and finances; railroads, canals, rivers and commerce.

VII. *Physical and Political Geography of Nation*:—Physical features, mountains, plains, lakes, rivers; climate, latitude, altitude, location, boundaries; ocean currents, cause, effect.

VIII. Surface, Soil, Natural Phenomena and Conditions:—Animal, vegetable and mineral productions.

IX. States and Districts:—Government, officers, elections; national institutions, location, function.

X. Social Status:—Inhabitants, races, conditions; politics, religions, customs, manners, national traits and peculiarities; physical, intellectual and moral status; education and morals.



XI. Industries and Occupations:—Railroads, canals, rivers, commerce; large cities, locations, population, character and pursuits of inhabitants.

XII. Physical and Descriptive Geography of Foreign Countries.

XIII. Political and Commercial Geography of Foreign Countries.

XIV. Social and Political Status of Inhabitants of Foreign Countries:—Industries, education, religion, customs, manners, governments, etc.

XV. *Principles of Mathematical Geography*:—Sphere, globe, shape and size of earth; definitions developed; circles, zones, poles, axes: latitude and longitude.

XVI. Motions of Earth:—Effect, cause; earth as a planet; relations to rest of solar system.

XVII. How to teach Primary Geography:—Begin at home; teach orally, objectively, synthetically and inductively.

XVIII. How to teach Advanced Geography:—Teach more subjectively, analytically and deductively.

XIX. Review or examination.

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## HISTORY.

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I. *Administrations, Growth of Governmental Principles, Political Parties, Great Ideas, Measures, Policies, Doctrines, Men*:—Organization of government, constitution; origin of Federalists and Anti-Federalists; Administrations of Washington and Adams, principles, policies, men, results; freedom and slavery,—birth, growth and conflicts.

II. Administrations of Jefferson and Madison:—Parties, policies, men, events; War 1812, cause, events, results; slavery abolition, foreign slave trade.

III. Administrations of Monroe and Adams:—Peace and prosperity, events; re-organization of parties,—Federalists be-

come? Anti-Federalists become? Slavery, Missouri Compromise, Monroe Doctrine, National Bank.

IV. Administrations of Jackson and Van Buren:—Whigs and Democrats; policies, men, results; Anti-Masonic and Temperance parties; great slavery agitation, Abolitionists; tariff troubles, Jacksonian measures; States rights, claims, fallacies, advocates, opponents; Banks, financial crisis.

V. Administrations of Harrison and Tyler:—Parties, policies, measures, events, men, results; Tyler and banks; Texas question, -opposition; Abolition party, principles, men.

VI. Administration of Polk: -Parties, pledges, policies, men; Mexican war, cause, results, opposition, injustice; Was Texas admitted constitutionally? Wilmot Proviso, aims, fate; Abolition or Free-soil party, cause, principles, men.

VII. Administrations of Taylor and Fillmore:—Parties, men, results; great slavery agitation, compromises 1850, repeal of Missouri Compromise, Fugitive Slave Act, slave trade in D. C., Abolitionists, champions of freedom, growth of Free-soil party; coming struggle, compromising attitude of Clay, Webster, Calhoun and their parties.

VIII. Administrations of Pierce and Buchanan:—Parties, policies, men, results; Republican party, principles, measures, men; Kansas and Nebraska Bill, Dred Scott Decision, Buchanan's course and policies; division of Democratic party 1860, results; Know-Nothing party; gathering storm.

IX. Administrations of Lincoln and Johnson:—Status of country, excitement, great events; secession, war inevitable; human freedom and national existence.

X. *Civil War and Period of Reconstruction*:—Cause, issues; parties to contest, status and hope of each; relation to foreign powers; national recognition of war; commerce and industries; prisoners, southern prison pens, inhumanity.

XI. Plans of campaigns and principal battles of each year:—

Colored troops; slavery and free labor; effects of war on colored race.

XII. Resources and Advantages of each Party:—Home influences, various commissions; woman's work and influences in field, hospital and home.

XIII. National Triumph: Confederacy defeated, cause; assassination and national grief; reconstruction,—President's, politicians' and statesmen's plans; opinions on same.

XIV. Johnson and Congress:—Impeachment; amendments, effects on colored race; Southern leaders, amnesty; re-admission of states, military control; South after reconstruction.

XV. Administrations of Grant, Hayes and Garfield:—Change in parties arising from reconstruction; Republican, Liberal Republican, Democratic; Greenback, resumption; events.

XVI. *Historical Characters*:—Statesmen, soldiers, politicians, inventors, poets, prose writers, journalists, philanthropists, educators.

XVII. Facts and Philosophy of History:—Relative importance; How to study history; How to teach it; How to make it interesting.

XVIII. What are the Lessons of the Past, the Duties of the Present, and the Hopes of the Future?

XIX. Review or examination.

## PHYSIOLOGY AND HYGIENE.

*I. Frame Work of Body*:—Bones,—uses, form, composition; head, cranium, face, ear; trunk, column, ribs, sternum, pelvis; extremities, upper and lower.

*II. Hygiene of Skeleton*:—Use and care of bones; growth, nourishment, breaks, fractures, repairs; conditions in early and adult life; how to keep the skeleton strong and healthy.

*III. Muscular System*:—Tissues of body; muscles,—use,

arrangement, kinds, structure; tendons and ligaments, —use, kind, location; skin —use, structure, mucus membrane, hair, nails, teeth.

*IV. Hygiene of Muscular System:*—Use and care of muscles and tendons; growth, exercise, strength, nutrition, food, health; skin, —use, care, condition.

*V. Digestion:*—Organs,—stomach, intestinal canal, glands; juices, chyme, chyle; mechanical and chemical processes.

*VI. Absorption:*—Lacteal fluid, glands, process; chemical changes; hygiene of digestive organs.

*VII. Circulation:*—Organs,—heart, arteries, capillaries, veins, lymphatics, lymph; mechanical and chemical processes; supply of nutriment and removal of waste; assimilation and tissue building.

*VIII. Respiration:*—Organs,—trachea, bronchi, lungs, air cells, capillaries; muscular aids; mechanical and chemical processes; skin, function, impurities; pure blood.

*IX. Hygiene of Circulation and Respiration:*—Food, nourishment, exercise, essentials; normal condition and healthy action of each system; health and life.

*X. Vital Processes:*—Relations; animal and vegetable functions; difference, similarity; hygiene of whole.

*XI. Nervous System:*—Brain, cerebrum, cerebellum, medulla, cord, cranial and spinal nerves; anatomy and physiology of each.

*XII. Sympathetic System:*—Function; anatomy and physiology; relations to cerebro-spinal; hygiene of nervous system.

*XIII. Special Senses:*—Touch, taste, smell; anatomy, physiology and hygiene of each.

*XIV. Eye:*—Coats, lenses, humors; function of accommodation; How we see; hygiene of eye.

*XV. Ear:*—Parts,—tympanum, bones, labyrinth, cochlea; How we hear; hygiene of ear.

XVI. *Hygiene of Human Body*:—Importance, necessity; food, drink, source, composition, chemistry; waste and repair.

XVII. *Clothing*:—Kind, amount, condition, cleanliness; exercise,—physical, mental, work, rest, sleep, growth; diseases, causes, treatment, preventives, cures.

XVIII. *Physiology and Hygiene*:—Importance; Why study it; How to study it; How to teach it; hygiene of school.

XIX. Review or examination.

## BOTANY

I. *The Growing Seed*:—Germ, germination, nourishment; essentials to growth; plan of growth; food of plants.

II. *How Plants Grow Year after Year*:—Herbs, shrubs, trees, annuals, biennials, perennials; roots,—kinds, shapes, uses, tubers.

III. *Stems*:—Various kinds; endogens and exogens.

IV. *Buds, Axil Buds, Branches*:—Propagation of plants from seeds and buds.

V. *Study of Leaves*:—Collect, observe, name, describe, classify and draw various kinds.

VI. *Study of Leaves*:—Same as previous lesson; parts, arrangement, composition and use of leaves.

VII. *Inflorescence*:—Kinds,—spike, raceme, head, panicle, umbel, corymb; parts or organs,—calyx, corolla, stamens, pistil.

VIII. *Study of Flowers*:—Complete, incomplete; perfect, imperfect; symmetrical, regular, etc., etc.; analysis and drawing of parts.

IX. *Study of Flowers*:—Relations to leaves; various kinds, fertilization, use; analyzing and drawing flowers.

X. *Study of Fruit*:—Classes,—fleshy fruits, stone fruits and dry fruits; kinds and examples of each; compound fruits.

XI. *Fruit and Seeds*:—Production, composition, parts, uses, etc.

XII. *How and why plants grow*; What they are made for; What they do.



XIII. Study and Analysis of Plants:—Classification with the key.

XIV. Collect, Study and Classify Plants.

XV. “ “ “ “ “

XVI. Why Study Botany:—Value, claims, place in our schools; Why teachers should understand it.

XVII. How to study it; How to have pupils to study it.

XVIII. How to teach it; How to make it interesting and practical.

XIX. Review or examination.

## ZOOLOGY.

I. *Animal Kingdom*:—Protozoa,—Characters, type of sub-kingdom: ex., sponges, bell-animalcule; Cœlenterata,—characters, type: ex., jelly-fishes, star-corals.

II. Annuloida:—Characters, type: ex., sea-urchins, star fishes, tape worms; Mollusca,—characters, type: ex., clams, mussels, oysters, snails, etc.

III. Annulosa:—Characters, type, classes: ex., worms, crabs, lobsters, grasshoppers, spiders, beetles, flies.

IV. Vertebrata:—Characters, type, classes, orders: ex., fishes, salamanders, snakes, birds, quadrupeds.

V. Study of Mollusca:—Collect and examine fresh water shells and snails; land snails; study and classify.

VI. Collect, Examine and Dissect Fresh Water Mussels:—Draw and classify the same; study clams, mussels and oysters.

VII. Study of Worms:—Classes, kinds; collect, examine and classify common earth-worms.

VIII. Study of Crustaceans:—Characters of class; How they breathe and move; collect, examine, classify, dissect and draw a crawfish.

IX. Study of Spiders:—Characters, kinds; structure and

habits; respiration and food; collect and study specimens; Centipedes and Millipedes.

X. Study of Insects:—Characters, kinds; How to collect them; How they breathe and live; Parts of an insect; Dissect and draw grasshopper.

XI. Structure, Growth and Habits of Insects:—Round of life, egg, larva, pupa, imago; examples.

XII. Fishes, Amphibians and Reptiles:—Characters, structure and rank of each. Illustrate with examples if possible.

XIII. Birds:—Characters, kinds, structure, growth, food, rank and habits; examples.

XIV. Mammals:—Character, classes, kinds, structure, growth, food, rank, habits; examples.

XV. Zoology of the State:—Native animals, classes, kinds, food, uses and habits.

XVI. Beneficial and Harmful Animals:—Injurious insects; remedies, etc.

XVII. Why Study Zoology:—Value, claims, place in our schools; Why teachers should understand it; practical value.

XVIII. How to study it; How to teach it; How to make it interesting and practical.

XIX. Review or examination.

## MINERALOGY.

I. Mineral Kingdom:—What are Minerals? Name the sixteen elements constituting most minerals.

II. Name most Common Minerals and Constituent Elements; ex., Air, Water, Salt, Coal, Limestone.

III. How Minerals are Distinguished?—Properties; collect, study and distinguish specimens.

IV. Rocks:—What are Rocks? Name the minerals constituting most rocks; ex., quartz, limestone, gypsum.

V. Study of Rocks:—The silicates, carbonates and sulphates; examples and specimens of each.

VI. Classes of Rocks:—Stratified,—sand, clay or lime rocks:—Unstratified.—Plutonic, trap and volcanic rocks; metamorphic rocks; each discussed.

VII. Study of each class with respect to its *Origin, Structure* and *Composition*; ex., sandstone, granite, marble.

VIII. Stratified Rocks:—Origin, position, structure, composition; Fossils,—What they are: What they tell; origin, distribution and preservation.

IX. Study of Fossils:—Their amount and extent; collect, study and classify as many as possible.

X. Geological Ages:—Archaean, Silurian, Devonian, Carboniferous, Reptilian, Mammalian, Age of Man: nature and fossils of each.

XI. Building Materials and Metals:—Characters, source, supplies, use, value, etc.

XII. Coal, Salt and Precious Stones:—Characters, source, distribution, supplies, value, use, etc.

XIII. Mineralogy of the State:—Minerals, rocks, fossils, mineral formations; collect, examine and classify common minerals.

XIV. Rocks, Fossils, Boulders, Gypsum, Coal, Peat, Lead, Iron, etc., of the State.

XV. Building Materials, Metals, etc., of State; Study and examine Specimens.

XVI. Relations of the Mineral, Vegetable and Animal Kingdoms; Why study Mineralogy? Relations to other Sciences.

XVII. How to study Mineralogy; How to have Children to Study it; Practical Value.

XVIII. How to teach Mineralogy in our Common Schools.

XIX. Review or examination.

## ALGEBRA.

I. Introduction:—Use of Algebra. Definitions, symbols, signs, relations; Algebraic expressions, terms, axioms.

II. *Fundamental Operations*:—Addition, —Process, deductions, principles, drill.

III. Subtraction:—Process, deductions, principles, positive and negative quantities, drill.

IV. Multiplication:—Process, deductions, principles, drill; theorems and application.

V. Division:—Process, deductions, principles, corollaries, drill; theorems and applications.

VI. *Simple Equations*:—Use, definitions, principles, axioms; transformations, processes; solution of equations and problems.

VII. *Factoring*:—Process, deductions, principles, drill, applications.

VIII. Greatest Common Divisor:—Definitions, process, deductions, principles, drill, application.

IX. Least Common Multiple:—Definitions, process, deductions, principles, drill, application.

X. *Algebraic Fractions*:—Definitions, terms, reductions, process, deductions, principles, drill.

XI. Addition and Subtraction:—Process, deductions, principles; drill in each.

XII. Multiplication and Division:—Process, deductions, principles; drill in each; zero and negative exponents.

XIII. *Solution of Simple Equations*:—Clearing of fractions, transformations; process, deductions, principles, drill.

XIV. Solution of Problems:—Conditions, statements, solution of equations; process, deductions, principles, drill.

XV. Simultaneous Equations:—Definitions, three methods of elimination; process, deductions, principles, drill.

XVI. Solution of Simple Equations Containing two or More Unknown Quantities:—Process, deductions, practice in each.

XVII. Solution of Problems producing Simultaneous Equations: Process, deductions, analyses, principles.

XVIII. How to teach Algebra:—How to make it interesting and practical.

XIX. Review or examination.

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## CIVIL GOVERNMENT.

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I. Introduction:—Mankind, society, law, government; rights, liberty, law classified; different forms of government.

II. Republican Government:—Constitutions, nature, object, establishment; electors, elections, division of the powers of government.

III. Township Government:—School and civil officers; names, number, term of office, election and duties of each; function and jurisdiction of the justice court.

IV. Government of Incorporated Towns:—Different officers; name, number, term, election and duties of each; function and jurisdiction of the police court.

V. County Government:—Supervisors, Superintendent, Auditor, Treasurer, Clerk, Recorder, Surveyor, Sheriff, Coroner: term, election, qualifications, salary, duties of each.

VI. *State Government*:—Constitution, origin, adoption; bill of rights, suffrage, departments of government, education, other provisions, amendments; read and discussed.

VII. Legislative Department:—House, Senate; members, number, term, qualifications, elections, salaries, duties, etc; presiding officers, salaries, duties; powers and functions of legislature.

VIII. Executive Department:—Governor, Lieutenant Governor, State Superintendent, Secretary, Auditor, Treasurer of State, minor officers; term, election, salaries, duties, etc.

IX. Judicial Department:—District and Circuit Courts,—functions, jurisdictions, sessions; Judges, District Attorney, Clerk,



Reporter, Sheriff, Juries; terms, salaries, duties; Supreme Court—function, jurisdiction, sessions; Judges, Chief Justice, Attorney General, Clerk, Reporter; terms, salaries, duties, etc.

X. *National Government*:—Origin, nature, confederation, union and constitution; peculiarities,—not a consolidated republic nor a league of states.

XI. Constitution of the United States:—Read and discussed; peculiarities: nature and functions.

XII. Legislative Department:—House, senate, regulations, taxation.

XIII. Legislative Department:—Peace powers; war powers.

XIV. Legislative Department:—National prohibitions: State prohibitions.

XV. Executive Department:—President, Vice-President, election, qualification, etc.; powers and duties; auxiliary executive departments, functions.

XVI. Judicial Department:—National Courts,—Functions, jurisdiction: Supreme Judges, etc.; treason.

XVII. Miscellaneous Provisions:—State relations, National supremacy, etc.; amendments; practical workings of Constitution.

XVIII. How and why should Civil Government be taught in our Public Schools?

XIX. Review or examination.

## RHETORIC AND LITERATURE.

I. Relations to Grammar and Logic; use and value: Ideas, thought, expression.

II. *Invention*: The Simple Sentence: Drill in writing on some subject including capitals and punctuation.

III. The Complex Sentence: Drill in writing with all kinds of dependent clauses; capitals and punctuation.

IV. The Compound Sentence: Drill on some interesting subject; capitals and punctuation of same.

V. Contraction, Expansion and Substitution of Sentences: -- Effect; drill.

VI. Unity, Strength, Clearness and Harmony of Sentences: How secured.

VII. Combining Sentences into Paragraphs and Paragraphs into Themes; Analysis of Subject; Framework.

VIII. *Style*: Perspicuity, mastery of subject--thought; use of words; arrangement of words, phrases and clauses; unity and power of the sentence.

IX. Imagery: Simile, metaphor, personification, allegory, antithesis, metonymy, synecdoche, apostrophe, etc.: beauty and effect of figures.

X. Energy: Words; order of words and phrases; omission of words; idioms; proverbs and quotations; exclamation, vision, climax; period.

XI. Wit and Pathos: Satire, sarcasm, ridicule, irony, humor, sublimity; use and effects of each.

XII. Elegance and Variety: --Beauty of thought, sentiment and expression; euphony and alliteration; flowing sentences; rhythm; antithesis, interrogation, exclamation; variation.

XIII. *Literature*:-- Discourse; prose--oral and written, kinds of each; poetry, nature, mission, form and kinds.

XIV. to XIX. Study, Critically, Extracts from Carlyle, Dickens, George Eliot, Shakespeare, Irving, Poe, Hawthorne, Emerson, Lowell, Holmes, Bryant, Longfellow and Whittier, with reference to the several qualities of style, the thought and the sentiment.

XIX. Review or examination.

## SCHOOL ECONOMY.

I. *School Organization*: How to secure the interest and co-operation of board and community; How to secure the interest and friendship of pupils.

II. First Day: --Preparation, plan, details; tactics, signals, seating; necessity of system.

III. Temporary and Permanent Organization: Necessity: Necessity and Advantages of Grading Ungraded Schools: How to do it.

IV. Course of Study and Program:---Necessity: text-books and apparatus; relative value of artificial and natural apparatus; How procured.

V. School Hygiene:---Lighting, heating and ventilating school room:---how; order and cleanliness of room; habits and cleanliness of pupils; laws of health.

VI. *School Employment*: ---Conditions and requisites for study, health, pleasant surroundings, system, struggle, observation, interest, attention, mastery, thought.

VII. How to Secure Study:---Assigning lessons and planning work; proper incentives to study.

VIII. How to train the Eye to see, Ear to hear, Tongue to speak and Hand to execute.

IX. How to Secure the Interest and Attention of Pupils.

X. Instincts to be satisfied, Motives to be cultivated and Habits to be formed in true study.

XI. Recreation:---Objects, time, place, manner, kinds; value of play to childhood; teacher at play time.

XII. *School Government*:---The old and the new government; objects and means of school government; ultimate aim of all school government.

XIII. Elements of Governing Power in Teacher:---System, culture, character, influence, energy, interest, professional standing, earnestness, firmness, kindness, will power, heart power.

XIV. Elements of Governing Power in Pupils:---Competition, emulation, ambition, pride, manliness, womanliness; public opinion of school.

XV. Elements Governing Power in Community:---Board, influence, co-operation; home influence; how best secured.

XVI. Principles of School Government:---Offenses, punishments; school despotism.

XVII. Mistakes in School Organization and Employment.

XVIII. Mistakes in School Government.

XIX. Review or examination.

## ART OF TEACHING.

I. Introduction: What is Teaching? Intelligent teaching, psychological basis; the true teacher's field.

II. Science, Art and Profession of Teaching:---The old and the new teaching,---difference; aims, nature and the results of each.

III. The Four Elements of the New Teaching:---The teacher, the child, the matter taught and the manner of teaching; each discussed.

IV. *How to Teach Children to Study*:---Senses, instincts, child mind; waking up mind,---things, ideas, expression; value of playing, working and doing.

V. How to Cultivate the Observation:---Sympathy, conversation, child inquiries, questions, interest, object lessons, systematic play and work, etc.

VI. How to Secure the Attention:---Interest, curiosity, novel objects, stories, variety, adaptation, vigilance, order, conscience, self-interest, usefulness, happiness, approbation, ambition, etc.

VII. How to Secure Study:---Clear ideas, pleasure, helps, systematic work, analyses, outlines, mastery, application: conditions for study; objects and ends of study.

VIII. How to Teach Children and Think:---Use natural methods; Study child-nature, child-likes and instincts; The true teacher stimulates, leads, inspires, thinks, feels, acts.

IX. *Class Management and Recitation*:---Advantages of class, individual work, interest, attention, system, energy, enthusiasm, mastery, discipline, individuality, etc.

X. Means and Requisites for Conducting Recitation:--Preparation, natural fitness and manner of teacher; details; apparatus; study and teachable condition of pupils.

XI. Objects of the Recitation:--Instruction, development, comprehension, assistance, test, drill, mastery, application, etc.

XII. Ends and Aims of the Recitation:--Thought, feeling, doing, expression, individuality, originality, growth; interest, attention, retention, neatness, dispatch, self-reliance, etc.

XIII. Methods of Conducting the Recitation:--The oral, objective, inductive, synthetic, analytic, deductive, subjective; methods of drawing out and preteaching; art of questioning.

XIV. Mistakes in Study:--Idleness, parrot exercises, mock study, cramming, treadmillism, machine pupils, want of thought, misunderstanding, misapplication.

XV. Mistakes in Teaching:--Effects of such mistakes; How to avoid them; crimes against childhood.

XVI. New Methods of Teaching:--Natural methods, oral and objective methods; value of object lessons; value of sense, hand, eye and bodily culture.

XVII. Methods of Teaching Language, Mathematics and Science: Why teach natural sciences orally and objectively in our schools?

XVIII. The Coming Teacher:--His position, work and influence; a man of men, his calling the profession of professions.

XIX. Review or examination.

## SCIENCE OF TEACHING.

I. Introduction: Science of education, embraces man, matter and methods; the three branches of the science.

II. *The New Education*: The old and the new; origin, nature, scope and aims of the new; education is organic growth.

III. Human Nature: Organic nature of man; man as a



product; How the new education deals with the child; What it requires of the teacher; matter, principles and methods.

IV. *Child Nature*:—The child a creature of sense and instinct, — a cognizant being; his nature from inheritance, circumstances and culture; his three-fold nature.

V. *Child Life*:—Tendencies, activities, instincts and responsibilities; status of his physical, intellectual and moral nature; sense-life before school; his play-work, its value; Where to begin school instructions.

VI. *Sense Culture*:—Awakening and development of the senses: touch, taste and smell; function and relations to education.

VII. *Intellectual Senses*:—Sight and hearing; function and relations to education; senses and ideas; What the senses are and do; objective teaching; things, ideas, words.

VIII. *Instincts of Culture*,—*Intellectual Instincts*:—Nature activity and function; distinguished from animal instincts, named and discussed.

IX. *Relations to Human Development*:—Their culture in the kindergarten and schools; relations to the arts, sciences, industries and life; full development and human possibilities.

X. *Intellectual Faculties*:—Perception, Memory and Recollection; nature, function, awakening, exercise and culture; value of each in practical life.

XI. *Imagination, Reason, Intuition or Common Sense*:—Nature, function, awakening, exercise and culture; value of each in practical life.

XII. *The Natural Order of Development of Intellectual Faculties*:—Value and arrangement of studies best adapted to secure such development.

XIII. *The Perceptive and Expressive Powers of Mind*:—Their exercise and culture; sensation, perception, observation, attention and expression; object lessons.

XIV. *The Reflective Powers of the Mind*:—Exercise and culture; order of development; relation to other powers.

*VI. Will Power:*—Necessity of cultivating the will: the will and habits; will and circumstances; the child's will: How to train the will to execute and body to act.

*VII. Feelings or Sensibilities:*—Emotions, affections; desires; necessity of their culture; relations to life, culture and happiness; conceptions of the good, the beautiful and the true.

*VIII. Physical and Moral Culture:*—Relations to mental; necessity; industrial and technical education; nature the great moral teacher: How secured.

*IX. Educational Principles and Progress:*—Principles from Pestalozzi, Froebel, Mill, Huxley, Agassiz, Eliot, Bain, Spencer and others; professional education; kindergarten in public school; practical psychology as a teaching and governing power.

*X. Review or examination.*

## PRINCIPLES AND METHODS OF PRIMARY TEACHING.

I. Primary Teaching:—The true primary teacher,—importance and nobility of her work: kindergarten principles,—nature's methods; materials improvised; sympathy with child nature.

II. Child Nature:—Senses instincts, inherited tendencies, environments, volitions, powers, capacities; activity: love of objects, desire of doing, play-work.

III. *Use and Cultivation of the Senses:*—The material world through the senses; relations to knowledge and life; time and order of awakening; evolution of thought, sensation, perception, idea, expression.

IV. The Animal Senses: Taste, smell, touch; function and development; exercises for training the taste, smell and touch.

V. The Intellectual Senses:—Sight and hearing; function, value and education in life; exercises for training the sight and hearing; home training.

VI. *Instincts of Culture:*—Origin, nature, function; rela-

tion to the taste, habits, life and character of the individual: instincts in the kindergarten, schools, arts, sciences and practical life.

VII. Instinct of Activity, Instinct of Labor, Instinct to Commune with Nature:—Nature and prominence of each in childhood; value in life; culture in primary work.

VIII. Instinct of Knowledge, Instinct of Association, Religious Instinct:—Nature, prominence and value of each; culture in the primary; value as guides in teaching.

IX. *Intellectual Faculties*:—Awakening and activity in childhood; How to cultivate the Perception, Memory and Recollection in primary work.

X. Imagination, Reason and Intuition:—Development, exercise and function; How cultured in primary work.

XI. How to Cultivate the Child's Attention and Observation:—Curiosity, desires, pleasures, inclinations, natural methods; How to teach a child to study and think.

XII. How to Cultivate a Child's Moral and Volitional Nature:—Cultivation of his will, emotions, feelings, desires and appetites.

XIII. The Kindergarten:—Nature and aims; the nature and importance of the gifts; culture of the senses, instincts and faculties; training of all the powers of body and mind; necessity of kindergarten principles in our primary schools.

XIV. How to give Object Lessons on Natural Science:—Relation of elementary science to true education.

XV. How to Teach a Child to Talk and Read:—Conversational exercises; securing accuracy, fluency, distinct articulation, correct and natural expression, and comprehension of thought and language; natural method of teaching reading; materials.

XVI. How to Give Language Lessons:—The objective and synthetic methods; usage, imitation, example, drill; language with objects.

XVII. How to Teach Primary Arithmetic:—Number with objects; objective and synthetic methods; accuracy and rapidity.

XVIII. How to Teach Drawing:—Nature's method; study the child and his ways; instinct for making and drawing; drawing as an aid in primary teaching.

XIX. Review or examination.

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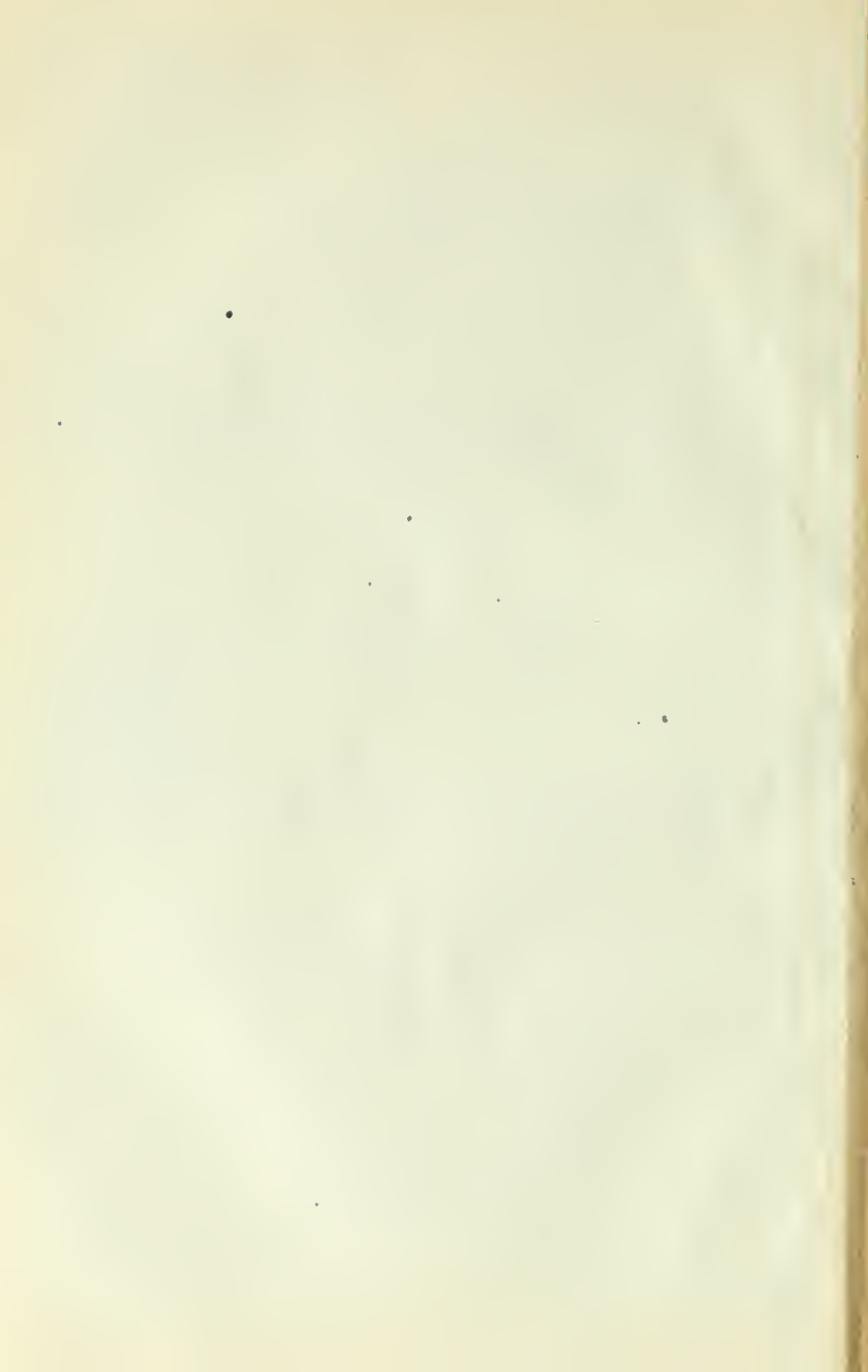
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CHARLES H. MCGREW, B. S.,  
COUNTY SUPERINTENDENT KEOKUK COUNTY, IOWA,  
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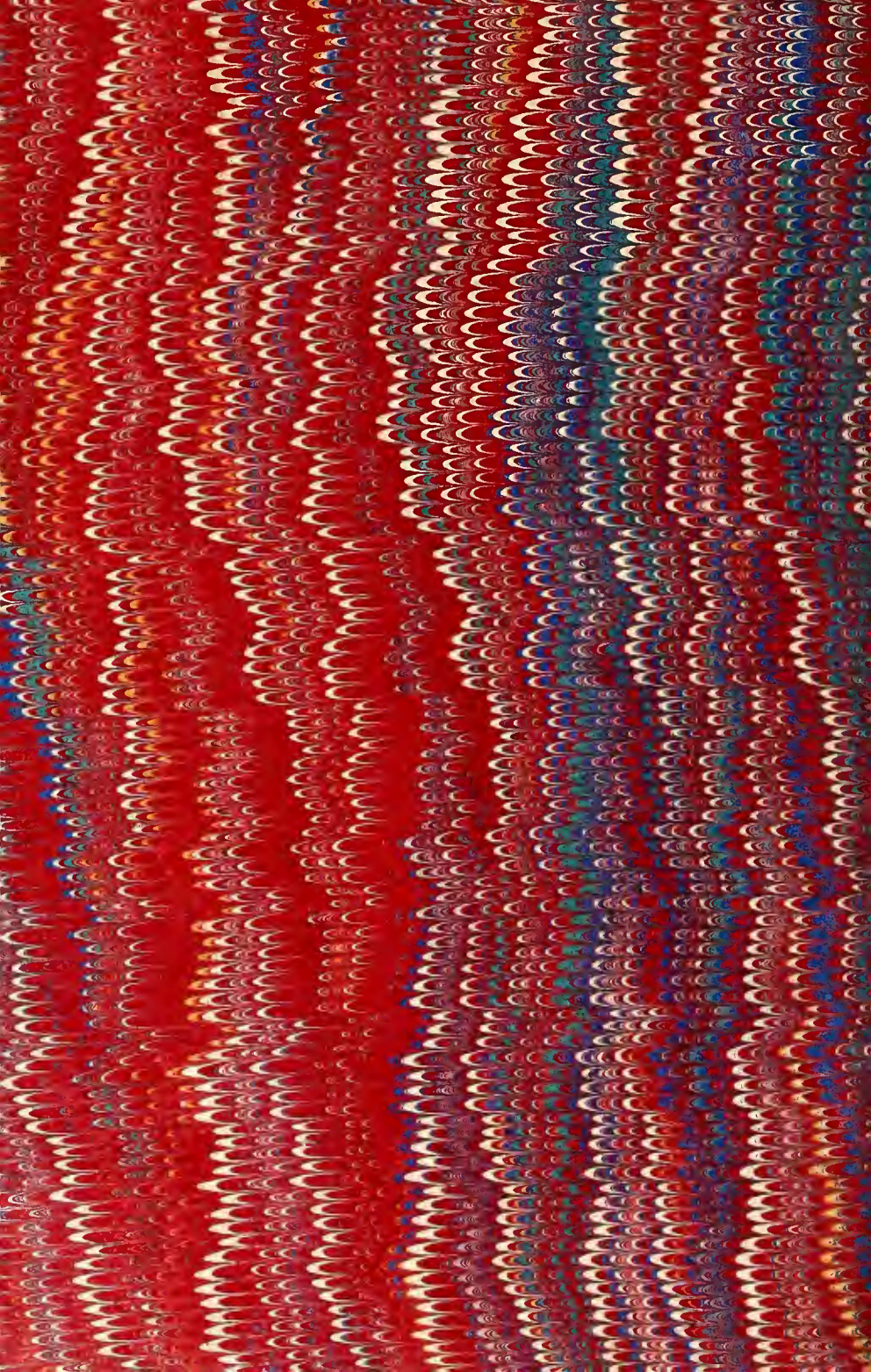




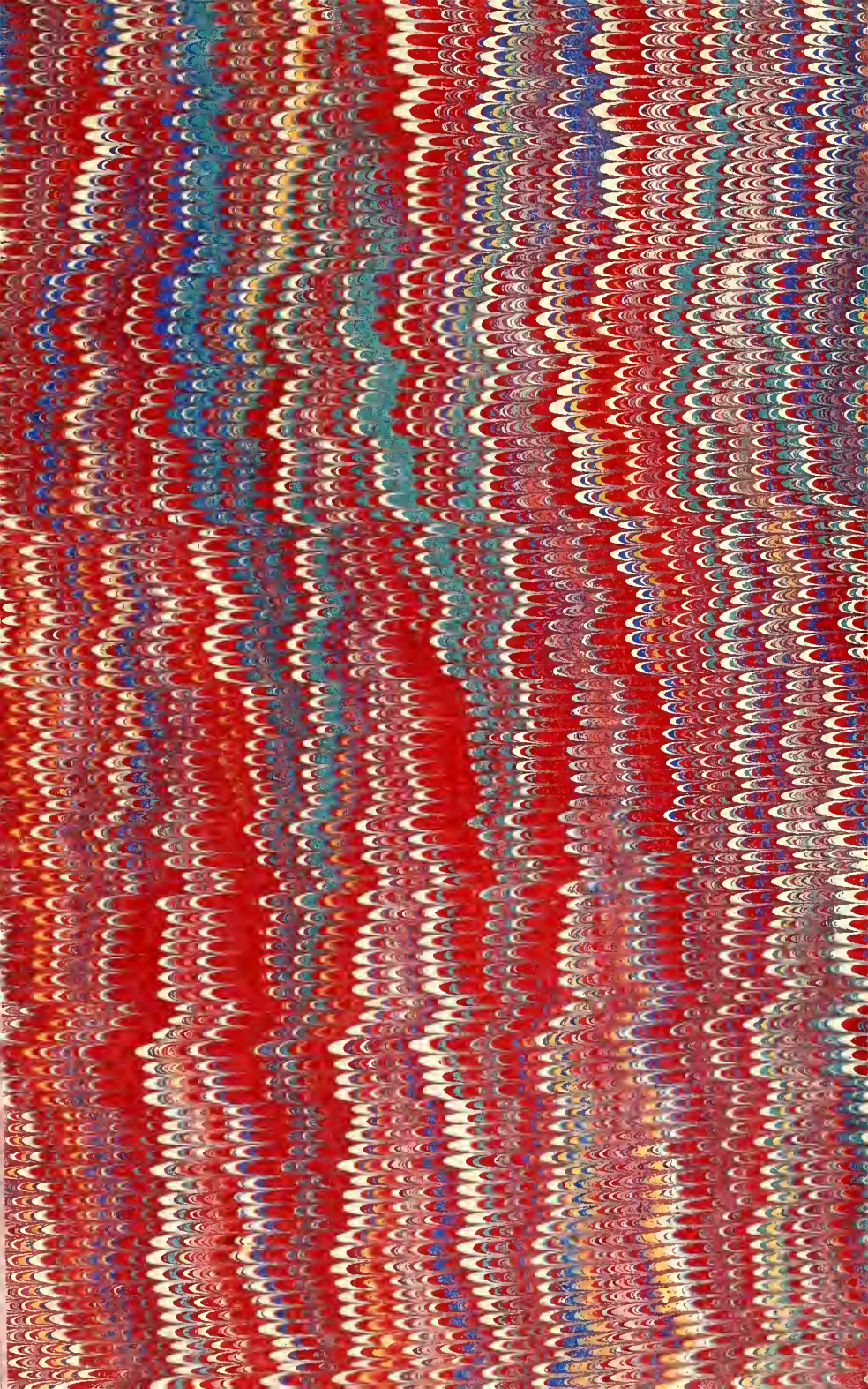














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